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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,367	07/07/2002	Shih-Sheng Huang	PMXP0144USA	2101

27765 7590 05/19/2004

NAIPO (NORTH AMERICA INTERNATIONAL PATENT OFFICE)
P.O. BOX 506
MERRIFIELD, VA 22116

EXAMINER	
LE, DUY K	

ART UNIT	PAPER NUMBER
2685	7

DATE MAILED: 05/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/064,367	HUANG ET AL.	
	Examiner	Art Unit	
	Duy K Le	2685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-20 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 3,6.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 5, 11, 12, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Martensson et al. (EP 0483956 A2).

As to claim 1, Figure 1 in Martensson shows an audio system comprising:

a playing circuit (1, 2) for generating an audio signal ("Figure 1 shows a combined radio apparatus comprising both a broadcast entertainment radio receiver 1 and a transceiver 2 of a cellular radio telephone" (Col. 3, lines 24-27));

at least a speaker (10) electrically connected to the playing circuit for playing sound according to the audio signal ("both the radio receiver 1 and the transceiver 2 are coupled to a common audio frequency amplifying circuit 23 which in turn is coupled via connector 11 on the housing 3 to a common external loudspeaker" (Col. 3, lines 50-54));

a detector (4) for detecting a communication signal of a mobile phone or an automobile phone and generating a corresponding mute signal ("as shown in Figure 1 the respective microprocessors 4 and 5 of the receiver 1 and transceiver 2 can communicate with each other so that when the telephone is in the off-hook condition and possibly also when an incoming call is detected the microprocessor 4 causes the broadcast radio receiver 4 to be muted or silenced automatically, for example, by disconnecting the broadcast receiver 1 from the audio frequency

amplifying circuit 23. The signal from the receiver 4 to the loudspeaker 10 may be returned to the pre-selected level under the control of the microprocessors 4 and 5 when the telephone is no longer in use" (Col. 4, line 49 to Col. 5, line 3)); and

a mute circuit (4) electrically connected to the detector and the player circuit for receiving the mute signal (see Col. 4, line 49 to Col. 5, line 3);

wherein the mute circuit stops the speaker from playing sound after the mute circuit receives the mute signal (see Col. 4, line 49 to Col. 5, line 3).

As to claim 2, the Martensson reference discloses the audio system of claim 1 being an automobile audio system ("according to the present invention there is provided a radio apparatus comprising a broadcast radio receiver and a mobile radio telephone transceiver arranged for mounting as an integral unit in a vehicle" (Col. 2, lines 13-17)).

As to claim 5, the Martensson reference discloses the audio system of claim 1 wherein the communication signal is a radio communication signal ("Figure 1 shows a combined radio apparatus comprising both a broadcast entertainment radio receiver 1 and a transceiver 2 of a cellular radio telephone" (Col. 3, lines 24-27). "Alternatively dual frequency band antennas are known which operate both at the broadcast radio receive frequency and the mobile telephone transmit and receive frequencies" (Col. 3, lines 44-47)).

As to claim 11, Figure 1 in Martensson shows an automatic mute device (4) for an audio system, the audio system comprising:

a playing circuit (1, 2) for generating an audio signal ("Figure 1 shows a combined radio apparatus comprising both a broadcast entertainment radio receiver 1 and a transceiver 2 of a cellular radio telephone" (Col. 3, lines 24-27)); and

at least a speaker (10) electrically connected to the playing circuit for playing sound according to the audio signal ("both the radio receiver 1 and the transceiver 2 are coupled to a common audio frequency amplifying circuit 23 which in turn is coupled via connector 11 on the housing 3 to a common external loudspeaker" (Col. 3, lines 50-54));

the automatic mute device comprising:

a detector for detecting a communication signal of a mobile phone or an automobile phone and generating a corresponding mute signal ("as shown in Figure 1 the respective microprocessors 4 and 5 of the receiver 1 and transceiver 2 can communicate with each other so that when the telephone is in the off-hook condition and possibly also when an incoming call is detected the microprocessor 4 causes the broadcast radio receiver 4 to be muted or silenced automatically, for example, by disconnecting the broadcast receiver 1 from the audio frequency amplifying circuit 23. The signal from the receiver 4 to the loudspeaker 10 may be returned to the pre-selected level under the control of the microprocessors 4 and 5 when the telephone is no longer in use" (Col. 4, line 49 to Col. 5, line 3)); and

a mute circuit electrically connected to the detector and the player circuit of the audio system for receiving the mute signal (see Col. 4, line 49 to Col. 5, line 3);

wherein the mute circuit stops the speaker from playing sound after the mute circuit receives the mute signal (see Col. 4, line 49 to Col. 5, line 3).

As to claim 12, the Martensson reference discloses the automatic mute device of claim 11 wherein the audio system is an automobile audio system ("according to the present invention there is provided a radio apparatus comprising a broadcast radio receiver and a mobile radio

telephone transceiver arranged for mounting as an integral unit in a vehicle" (Col. 2, lines 13-17)).

As to claim 15, the Martensson reference discloses the automatic mute device of claim 11 wherein the communication signal is a radio communication signal ("Figure 1 shows a combined radio apparatus comprising both a broadcast entertainment radio receiver 1 and a transceiver 2 of a cellular radio telephone" (Col. 3, lines 24-27). "Alternatively dual frequency band antennas are known which operate both at the broadcast radio receive frequency and the mobile telephone transmit and receive frequencies" (Col. 3, lines 44-47)).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 3, 4, 8, 9, 13, 14, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 0483956 A2 to Martensson et al. in view of Wavroch et al. (U.S. Patent 5,404,391).

As to claims 3 and 13, the Martensson reference discloses the audio system of claim 1 and the automatic mute device of claim 11. However, it does not expressly disclose the detector generates the mute signal when a signal voltage of the communication signal is larger than a predetermined value so as to make the mute circuit stop the speaker from playing sound. The Wavroch reference teaches the detector generates the mute signal when a signal voltage of the

communication signal is larger than a predetermined value so as to make the mute circuit stop the speaker from playing sound ("the carrier signal transmitted by the cellular telephone on the voice channel frequency is picked up by the antenna 1 and passed through the tuned circuit 2. The signal is then amplified and converted to a DC level which is compared with a reference level in the comparator 4. The comparator comprises one method of adjusting the sensitivity of the system. By increasing the referenced level, a larger signal will be needed to set it off" (Col. 3, line 67 to Col. 4, line 7). "The output of buffer trigger 6 is connected to relay driver 7 which activates a relay 7A to disconnect the car radio via switch 7B" (Col. 4, lines 18-20). See also Figure 1).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system and device of Martensson wherein the detector generates the mute signal when a signal voltage of the communication signal is larger than a predetermined value so as to make the mute circuit stop the speaker from playing sound, as taught by Wavroch, in order to adjust the sensitivity of the system to trigger an alert.

As to claims 4 and 14, the Martensson reference discloses the audio system of claim 1 and the automatic mute device of claim 11. However, it does not expressly disclose the detector generates the mute signal when a sustained time of the communication signal is longer than a predetermined time so as to make the mute circuit stop the speaker from playing sound. The Wavroch reference teaches the detector generates the mute signal when a sustained time of the communication signal is longer than a predetermined time so as to make the mute circuit stop the speaker from playing sound ("to guard against the system being set off by spurious signals, time delay 5 is connected to the comparator 4. In a preferred embodiment, the time delay will

implement a delay of 2 seconds. The output of the time delay activates a buffer trigger 6" (Col. 4, lines 10-15). See also Figure 1).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system and device of Martensson wherein the detector generates the mute signal when a sustained time of the communication signal is longer than a predetermined time so as to make the mute circuit stop the speaker from playing sound, as taught by Wavroch, in order to guard against the system being set off by spurious signals.

As to claims 8 and 18, the Martensson reference discloses the audio system of claim 5 and the automatic mute device of claim 15. However, it does not disclose the detector comprises: a receiver for receiving the radio communication signal; a high-pass filter for filtering out low frequency waves of the radio communication signal; an envelope detector electrically connected to the high-pass filter for measuring the direct current signal voltage of the communication signal and generating a corresponding voltage signal; and a control circuit for generating the mute signal according to the voltage signal. The Wavroch reference (Figure 1) teaches the detector comprises: a receiver (2) for receiving the radio communication signal; a high-pass filter (2) for filtering out low frequency waves of the radio communication signal; an envelope detector (3, 4) electrically connected to the high-pass filter for measuring the direct current signal voltage of the communication signal and generating a corresponding voltage signal; and a control circuit (6) for generating the mute signal according to the voltage signal (see Col. 3, lines 12-27).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system and device of Martensson wherein the detector comprises: a receiver for receiving the radio communication signal; a high-pass filter for filtering

out low frequency waves of the radio communication signal; an envelope detector electrically connected to the high-pass filter for measuring the direct current signal voltage of the communication signal and generating a corresponding voltage signal; and a control circuit for generating the mute signal according to the voltage signal, as taught by Wavroch, in order to mute the radio on receipt of a telephone call by a cellular telephone.

As to claims 9 and 19, the Martensson reference discloses the audio system of claim 8 and the automatic mute device of claim 18. However, it does not disclose the detector further comprises a delay circuit electrically connected between the envelope detector and the control circuit for delaying the voltage signal for a predetermined delay time and generating a corresponding delay signal, and the control circuit generates the mute signal according to the delay signal. The Wavroch reference (Figure 1) teaches the detector further comprises a delay circuit (5) electrically connected between the envelope detector (3, 4) and the control circuit (6) for delaying the voltage signal for a predetermined delay time and generating a corresponding delay signal, and the control circuit (6) generates the mute signal according to the delay signal ("to guard against the system being set off by spurious signals, time delay 5 is connected to the comparator 4. In a preferred embodiment, the time delay will implement a delay of 2 seconds. The output of the time delay activates a buffer trigger 6" (Col. 4, lines 10-15). See also Col. 3, lines 12-27).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system and device of Martensson wherein the detector further comprises a delay circuit electrically connected between the envelope detector and the control circuit for delaying the voltage signal for a predetermined delay time and generating a

corresponding delay signal, and the control circuit generates the mute signal according to the delay signal, as taught by Wavroch, in order to guard against the system being set off by spurious signals.

5. Claims 6, 7, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 0483956 A2 to Martensson et al. in view of Bell, III et al. (U.S. Patent 6,088,348).

As to claims 6 and 16, the Martensson reference discloses the audio system of claim 5 and the automatic mute device of claim 15. However, it does not disclose a frequency band of the radio communication signal is about 900 MHz. The Bell, III reference teaches a frequency band of the radio communication signal is about 900 MHz ("cellular frequencies at 869.04-893.97 MHz" in Col. 5, lines 46-55 and Figure 4).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system and device of Martensson wherein a frequency band of the radio communication signal is about 900 MHz, as taught by Wavroch, in order to support cellular frequency range.

As to claims 7 and 17, the Martensson reference discloses the audio system of claim 5 and the automatic mute device of claim 15. However, it does not disclose a frequency band of the radio communication signal is about 1800 MHz. The Bell, III reference teaches a frequency band of the radio communication signal is about 1800 MHz ("PCS frequencies at 1930-1990 MHz" in Col. 5, lines 13-22 and Figure 3).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system and device of Martensson wherein a frequency

band of the radio communication signal is about 1800 MHz, as taught by Wavroch, in order to support PCS frequency range.

6. Claims 10 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 0483956 A2 to Martensson et al. in view of Wavroch et al. (U.S. Patent 5,404,391) and further in view of Auckland et al. (U.S. Patent Application Publication 2002/0183013 A1).

As to claims 10 and 20, Martensson-Wavroch discloses the audio system of claim 8 and the automatic mute device of claim 18. However, it does not disclose a pass-band of the high-pass filter is over 900 MHz or 2500 MHz. The Auckland reference teaches a pass-band of the high-pass filter is over 900 MHz or 2500 MHz ("a multiband device operates on two or more bands of radio frequencies around 900 MHz and Digital Communication System (DCS) frequencies around 1800 MHz. Future devices must be able to function at a large number of frequencies. These include 700 MHz for US third generation (3G) data services (only one of the many proposals currently being considered); 800-900 MHz for GSM/CDMA cellular; 1800-1900 MHz for PCS/DCS; and 2400 MHz for Bluetooth" (page 1, paragraph [0009], lines 6-16). "For example, a dual-mode GSM-WCDMA radiotelephone will include a switch 118, bandpass filters 120, 11 and power amplifier 124 for both standards" (page 1, paragraph [0006], lines 20-22). See also Figure 1).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system and device of Martensson-Wavroch wherein a pass-band of the high-pass filter is over 900 MHz or 2500 MHz, as taught by Wavroch, in order to support cellular and Bluetooth frequency ranges.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Hayes et al. (U.S. Patent 5,867,794) discloses audio-output for a portable radio telephone utilizing a vehicle's AM/FM radio.

b. Donner (U.S. Patent 5,722,069) discloses entertainment system for playing communication media for an automobile.

c. Hadley et al. (U.S. Patent 5,243,640) discloses integrated cellular telephone and vehicular audio system.

d. Peterzell et al. (U.S. Patent 6,694,129) discloses direct conversion digital domain control.

e. Kim (U.S. Patent 6,519,475) discloses earphone-microphone combination including a radio module and method of shifting its operational mode between telephone mode and radio mode.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duy K Le whose telephone number is 703-305-5660. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F Urban can be reached on 703-305-4385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Duy Le
May 4, 2004

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